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ABSTRACT

The paper examines the various ways that qualitative researchers can use and interpret numbers, official statistics, and other quantitative data. It puts forth the position that qualitative researchers, in their quest for understanding, have too often viewed official statistics with only a cursory or descriptive analysis without deeper reflection or critical analysis as to the assumptions of the persons who collect and sue quantitative data. R. Bogdan and S. Bilen (1998) have presented several ways in which qualitative researchers can think about quantitative data. These ways of viewing numerical data are discussed: (1) the concept of "real" rates is a misnomer; (2) meaning can change when people, objects, or events are singled out for counting; (3) quantification has a temporal dimension; (4) quantification must be understood as a multilevel phenomenon; (5) both the person and his or her motivation for counting affects the meaning; (6) counting influences social processes with the setting that may be in addition to the activities directly related to the counting; and (7) quantification has a strong affective meaning. Taking the time to view quantitative data through qualitative eyes may be a way to guide an inquiry that expands rather than confines understanding. (SLD)

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ED 448 193

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Viewing Quantitative Data Through Qualitative Eyes

In some ways, Americans may feel inundated with numbers. Official and unofficial statistics are regularly generated by governmental agencies, school districts, institutions of higher education, and other educational or non profit organizations, as well as private companies, groups and the media. These large amounts of data are compiled and kept on a regular basis for a variety of purposes. While many of these statistics may be viewed by the general public as only informational or peripheral to their everyday lives, much of this information is used by individuals and organizations to make decisions. It is the interpretation of these data that provides understanding and meaning to phenomena and allows researchers and decision-makers to draw appropriate conclusions.

In the course of research in the field, qualitative researchers may come upon quantitative data collected by others. Much like Thomas and Znanaieki (1927), current researchers may stumble upon or discover data and then have the chance to expand their study by incorporating quantitative data. At other times, the qualitative researcher may find it useful to collect his or her own numerical data. The question then becomes what does the qualitative researcher think about and do with such information? These data are often reported in the form of descriptive statistics, but can also suggest trends and patterns in a setting and open up new areas to explore and new questions to answer (Merriam, 1988). The purpose of this paper is to examine the various ways that qualitative researchers can use and interpret numbers, official statistics, and other quantitative data and to put forth the position that qualitative

researchers, in their quest for understanding, have too often viewed official statistics with only a cursory or descriptive analysis without deeper reflection or critical analysis as to the assumptions of the persons who collect and use quantitative data.

The assumptions and methodological paradigms of researchers clearly influence their decisions in data collection, analysis, and interpretation (Guba & Lincoln, 1994). Constructivists and Critical Theorists may find reviewing quantitative data useful in determining how statistics support, contradict or are inconsistent with participants' worldviews. Just as insight can be gained by looking at the reasons why photographs were taken or saved, viewing quantitative data from a qualitative perspective allows the researcher to examine how counting and enumeration is used by participants in constructing reality (Gepart, 1988). Considering the social processes involved in numerical data collection, as well as, the effects of quantification on how people in varying levels of an organization think, act and react to these processes can provide insight into phenomenological understanding. A critical examination of quantitative data can help the researcher is determining what such numbers reveal about the assumptions of the people who collect, compile and use these data.

Bogdan and Biklen (1998) have presented several ways in which qualitative researchers can think about quantitative data. The intent is not to improve the means of counting or statistical data collection, but rather to increase understanding of how the counting takes place and what the counting means to

the various participants in organizations. These various ways of viewing numerical data qualitatively will now be presented and discussed.

The concept of "real rates" is a misnomer.

Rates and measures do not occur naturally. Rates and counts represent a view that participants and counters take toward people, objects and events. Operational definitions take on special meaning in that it depends on how something is defined as to whether or not it may be counted. For example, rates of acts of violence can be measured and counted in different ways depending on how the "act of violence" is defined. When is a burglary a burglary? When it occurs? - When it is reported? – When it is investigated? Such rates are dependent upon how the people doing the counting at a given time and place define the event and on how they go about their work of quantification. One cannot determine a rate until one understands the perspective toward specific actions that makes them quantifiable and able to be counted. Some additional questions to ask are (a) what factors influence definitions and the way acts are perceived?, (b) how do definitions vary from data gatherer to data gatherer?, and, (c) how did the understandings as to what to count and how to count it develop?

Meaning can change when people, objects or events are singled out for counting.

The act of quantification sometimes makes that which has been taken for granted more important. A requirement to keep statistics on race, ethnicity, or persons with disabilities may increase the attention people give to these factors.

It may also change the concept of who belongs in what category. It is important to explore the specific effects that counting has on the meaning of events or people.

Quantification has a temporal dimension.

Statistical data are located in particular historical moments. Numbers do not stand in isolation, but rather are connected to the social and historical contexts in which they are generated. Changes in reported rates do not necessarily mean an actual change. In some ways, the more one focuses on a particular condition or phenomena, the higher the rates may be (Sarason & Doris, 1979).

Quantification must be understood as a multilevel phenomena.

How an issue is viewed and measured in Washington at the national level does not necessarily correspond with how the same issue is thought about at state or local levels. Similarly, participants at different levels of an organization may have differing interpretations of the "counting". An increase in student enrollment may be viewed by administrators as an increase in funding or as a sign that the system is improving, whereas teachers may see larger classes as more work without any additional compensation. Questions that can illuminate this issue include (a) what was the intention of initiating the count?, (b) how is the origin of the count understood at different levels of the organization?, (c) how do those at the receiving level of the data understand the meaning of what they get?, and (d) how does the result correspond to what the collectors thought they were doing?

Both the person and his or her motivation for counting affects the meaning, the process, and the figures generated.

What is the role of those who initiate the counting and what sanctions are available to them? When funding is an issue, counts may tend to move toward levels that are more favorable to the organization. Public perception can be influenced by publication of data and this may influence what data are released. Those who initiate counts often may have a vested interest in rate production. Questions in this regard include (a) What do those who generate the counts understand to be the consequences of their actions?, (b) how might potential funding and achieving certain rates affect the counting?, (c) how do various professional groups influence the counting?, and (d) how do "lay" counts differ from official counts?

Counting influence social processes within the setting that may be in addition to the activities directly related to the counting.

Counting something can influence what people believe to be important, meaningful and expedient. In this age of school accountability, the increased importance of standardized test scores may influence and change the content of courses and the activities in which a class is engaged during the school year. Generating success (as determined by the "count") can become the major activity within the class. One should investigate how the counting affects the normal activities in which the participants engage and determine participant

perceptions of the relationship between measuring success and being successful.

Quantification has a strong affective meaning.

As a nation influenced by science, many view counting outcomes and generating rates as synonymous with being rational. However, we must look deeper to understand the various meanings of figures and data to the participants. Questions to enlighten this inquiry include (a) what is the symbolic meaning of the counting to various participants?, (b) how are the numbers communicated to the outside world?, (c) how are the numbers used internally?, and (d) what functions do the numbers serve in addition to those commonly held?

By the nature of our society, our nation will continue to be guided and influenced by the generation and interpretation of quantitative data. By considering the meanings attached to the generation of such data, it is hoped that a better understanding of the assumptions of those who generate, report and use quantitative data can be realized. Taking the time to view quantitative data through qualitative eyes may be a way to guide an inquiry that expands rather than confines understanding.

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